

Japanese Encephalitis in Okinawa

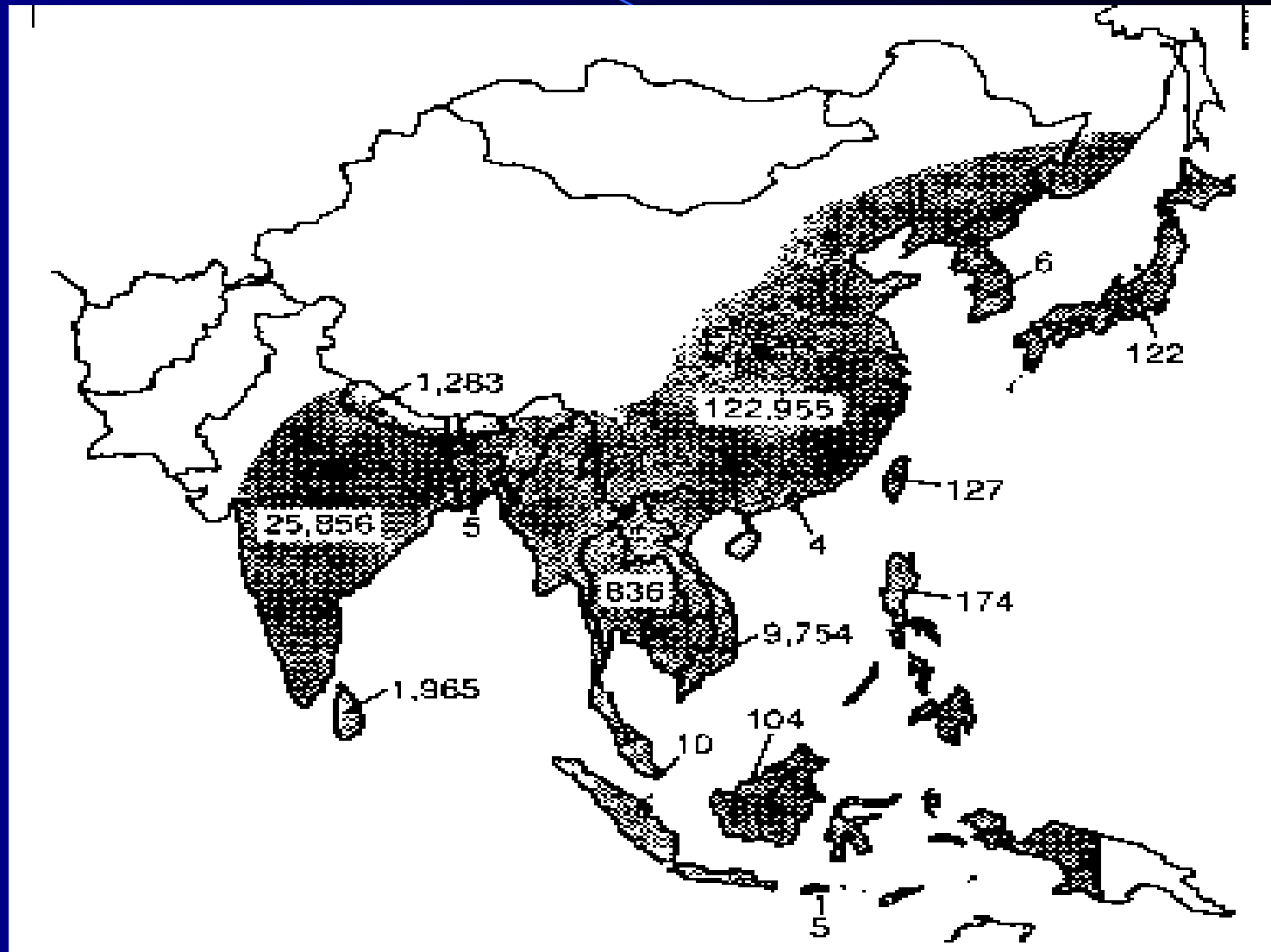
Occupational Health &
Preventive Medicine

U. S. Naval Hospital Okinawa

What is Japanese Encephalitis?

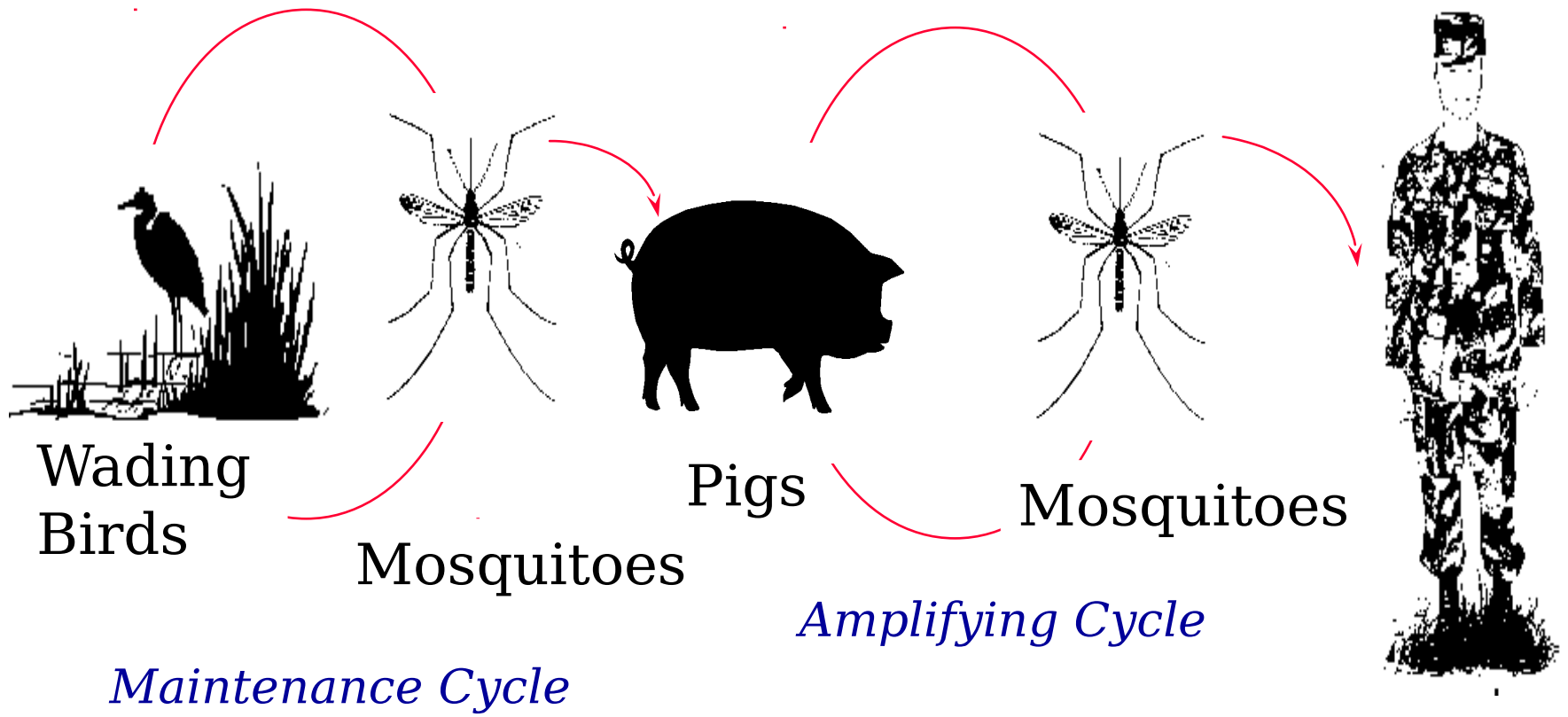
- Viral disease transmitted by mosquitoes
- Only 1/200 to 1/1000 infections are symptomatic
- Symptomatic illness ranges from mild to severe
 - Mild cases resolve within 2 weeks
 - 50% are severe with progressive neurologic impairment, stupor and coma leading to death or permanent neurologic damage

Japanese Encephalitis Distribut



from CDC, MMWR Vol. 42, Jan 8 93

Transmission Cycles



Vector Information

- Mosquito (*Culex tritaeniorhynchus*)
 - Breeds in rice paddies
 - Climatological conditions (90-100 inches rainfall/year) encourage breeding
 - Highest prevalence from March to November
 - Highest biting activity from dusk to midnight
 - Prefers to feed on pigs

Vector Information

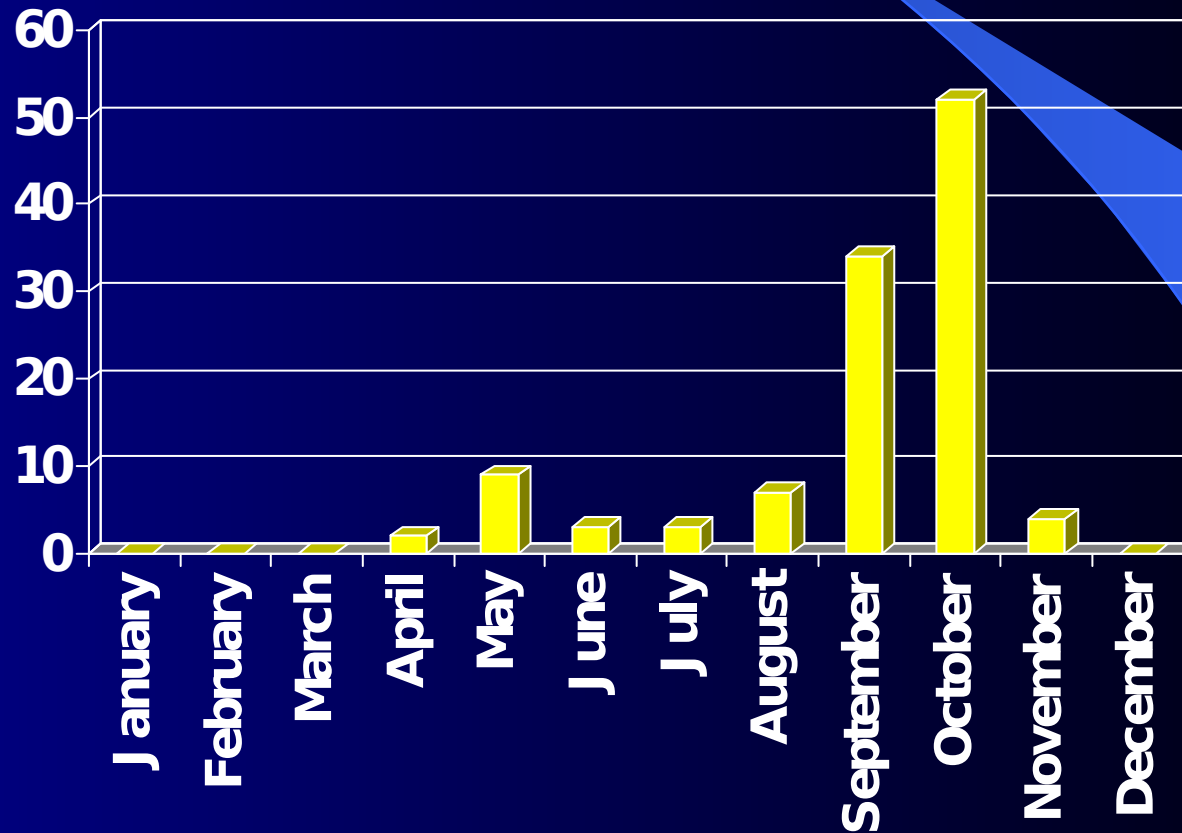
- Pig
 - Numerous pig farms on Okinawa
 - Breeding and slaughter operations create susceptible pig population and are located adjacent to populated areas, including U. S. Bases
 - Susceptible pig population, crowded conditions and proximity to mosquito populations amplify

Vector Surveillance Overview

- Entomology Department, Occupational Health and Preventive Medicine Directorate (OH/PM), conducts vector surveillance on a monthly basis
- Vector surveillance includes - collection, analysis and pesticide application recommendations.
- Pesticide applications are coordinated between the Entomology Department and the MOP Pest Control

1999 Southern Camp *Culex tritaeniorhynchus* Trap Data

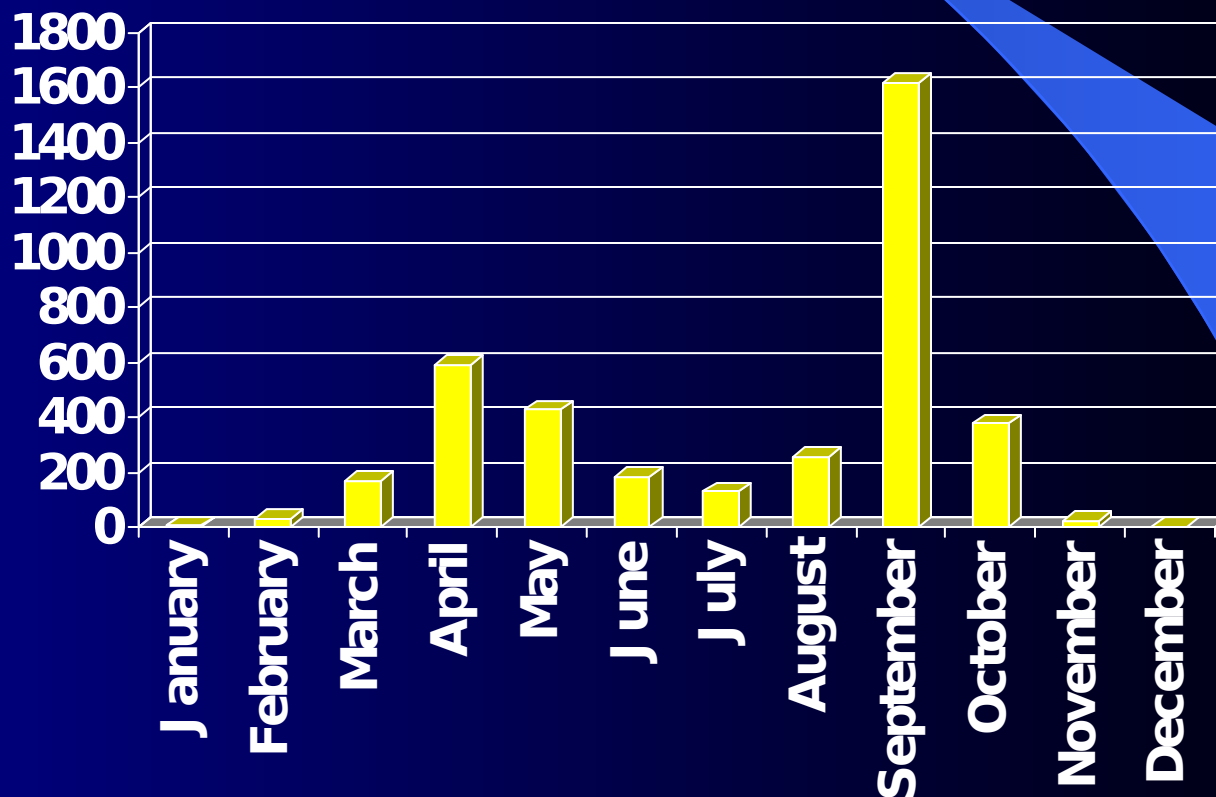
Total
Adults
Trapped



Note: Southern Camps include: Camp Kinser, Futenma, Foster, L

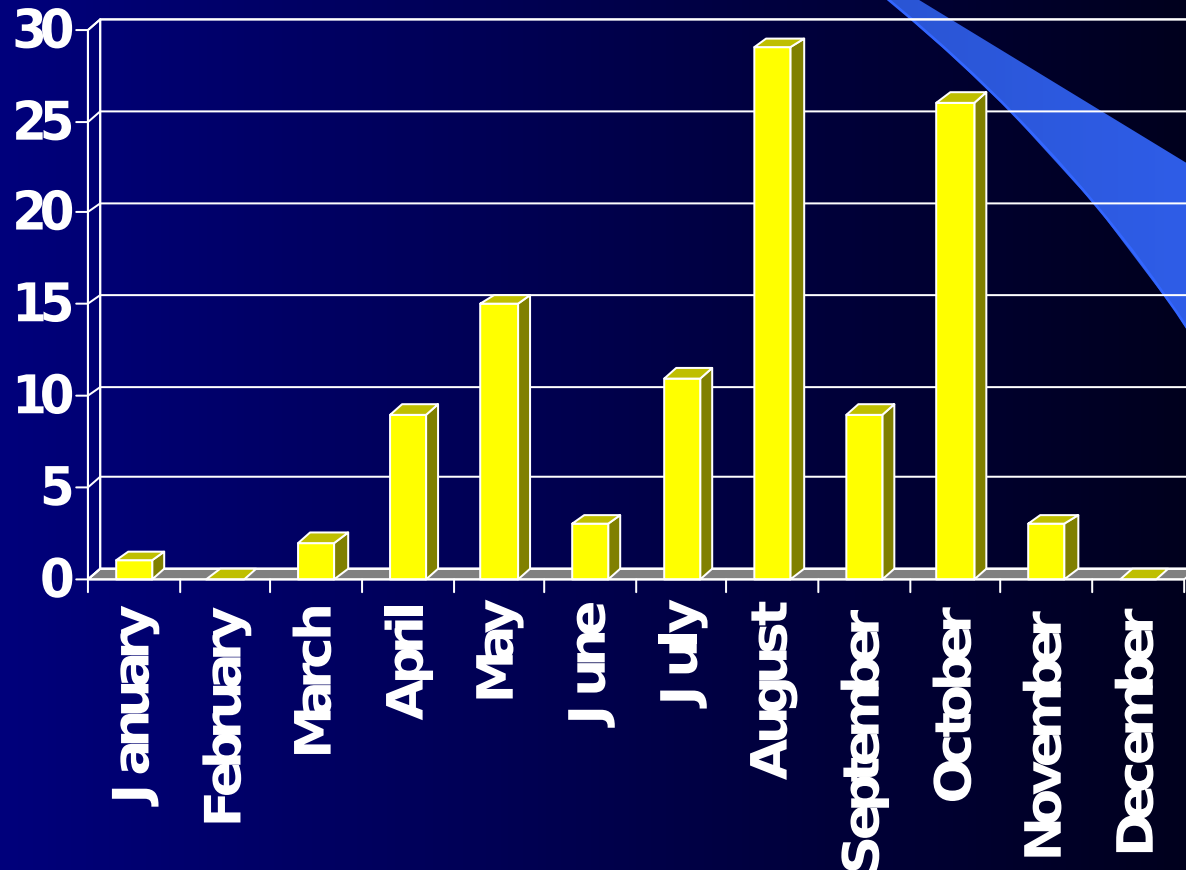
1999 Camp Hansen/Schwab *Culex tritaeniorhynchus* Trap Data

Total
Adults
Trapped



1999 Camp Courtney/McTureous *Culex tritaeniorhynchus* Trap Data

Total
Adults
Trapped



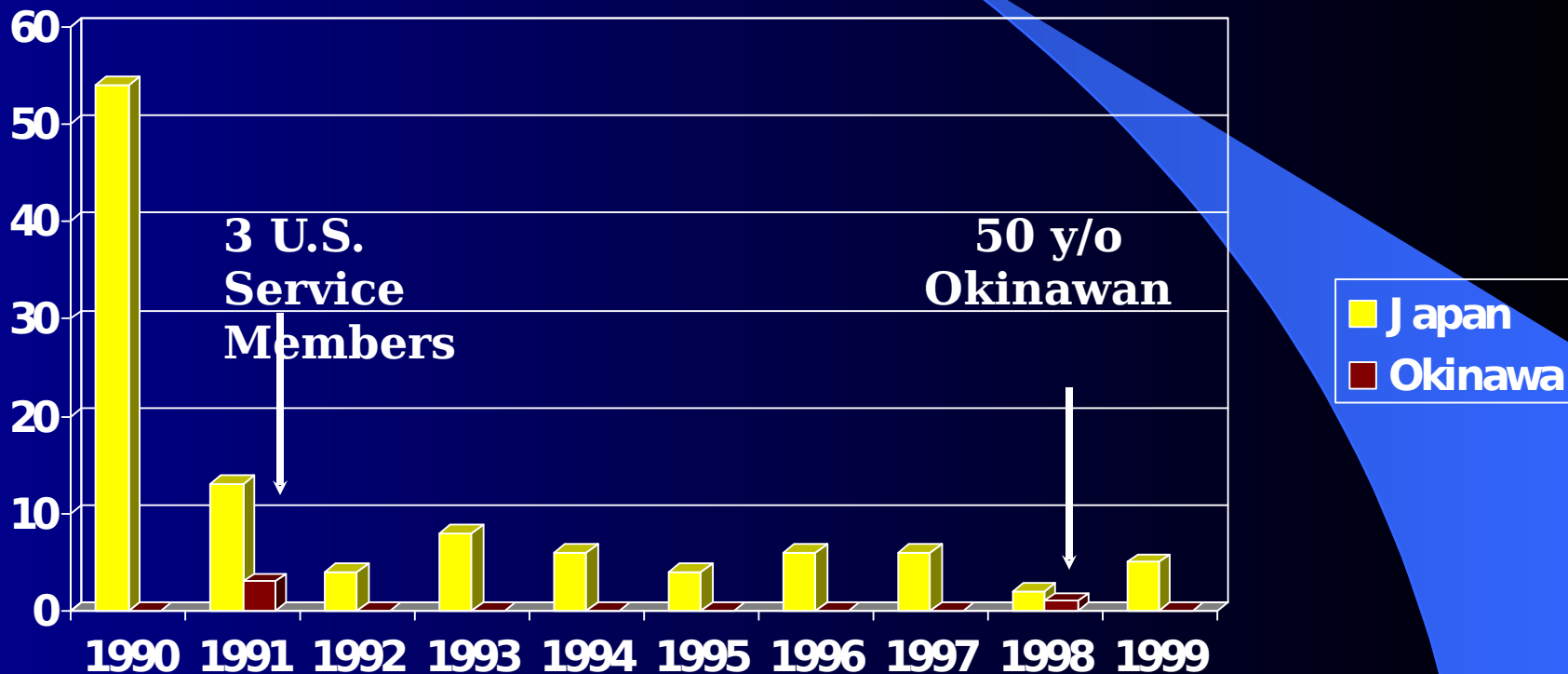
Background-JE Vaccine

- Vaccine licensed in Japan since 1953
- Okinawan school children (ages 3-15) routinely vaccinated since 1973
- Personnel deploying to Cobra Gold given vaccine under investigational protocol beginning in 1988
- 1991 - 3 Marines at Camp Hansen diagnosed with JE (2 with permanent neurological damage, 1 fully recovered)

Background-JE Vaccine

- NOV 91-APR 93 - BUMED vaccine study - 40,000 active duty and dependents immunized against JE
- OCT 91 - FEB 92 - NEPMU6 and DOH/PM conducted JE Risk Assessment by serological study
- DEC 92 - Vaccine received FDA licensure
- DEC 92 - APR 2000
 - No JE Cases in local U. S. Military population since 1991
 - In 1998 one Japanese national was diagnosed with Japanese B Encephalitis, current health status is unknown

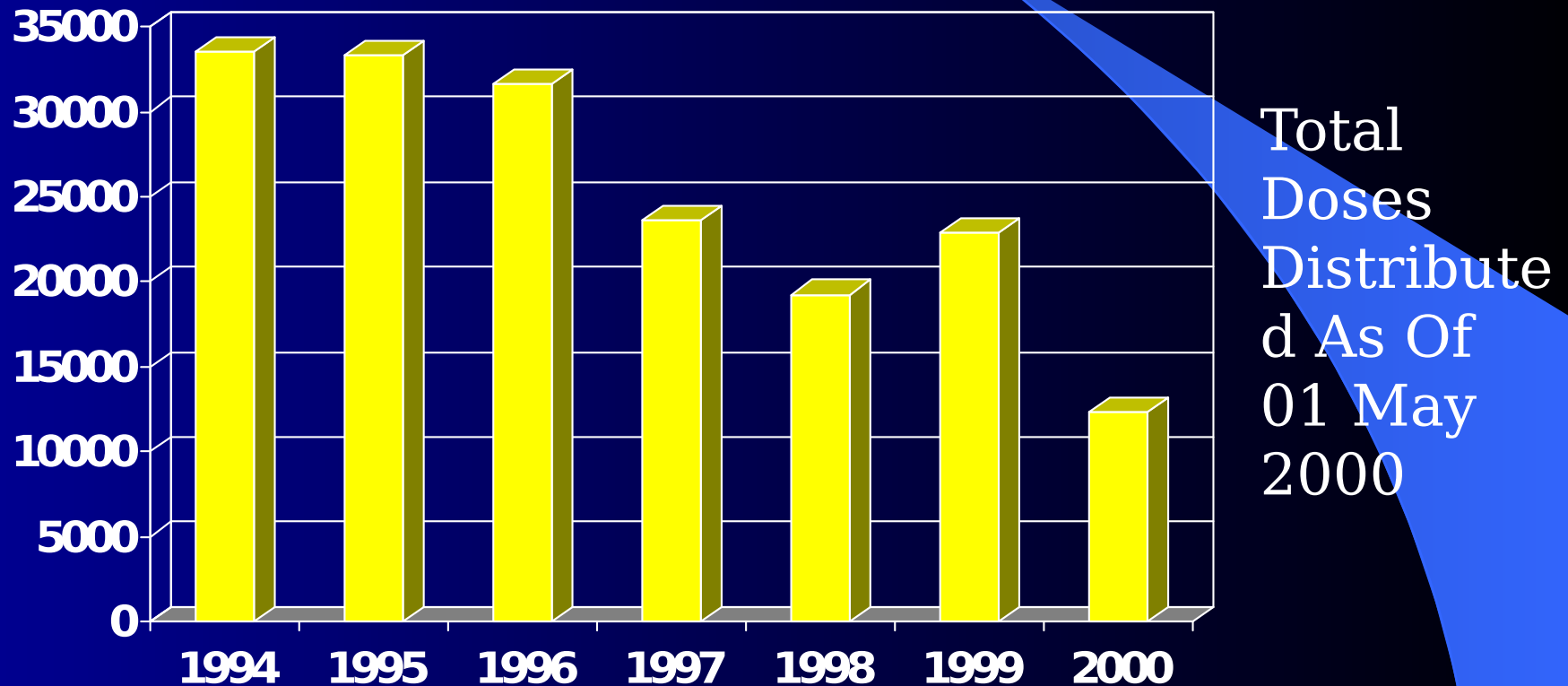
Reported JE Cases 1990 - 1999



Note: Japan data includes Okinawa

Note: A total of 13 deaths have occurred since 1990

U. S. Naval Hospital JE Vaccine Distribution



Note: All units are based on number of doses distributed

Note: Vaccine is purchased by box (3 doses/box)

JE Vaccine Prices

- Until Oct 1999 - \$95 to \$110 per 3 dose box
- Nov 1999 - \$242 per 3 dose box
- April 2000 - \$259 per 3 dose box or \$377 per 10 dose vial

Note: Due to cost constraints, future purchases will be based on 10 dose vials

Current Recommendations & Policies

- Current Center for Disease Control and Prevention (CDC) JE vaccine recommendations include:
 - Persons who plan to reside in areas where JE is endemic or epidemic
 - Travelers spending a month or longer in endemic areas during transmission season

Current Recommendations & Policies

- Joint instruction (AFJI 48-110, AR 40-562, BUMEDINST 6230.15 of 1 Nov 95)
“Immunizations and Chemoprophylaxis”
 - JE vaccine required when deploying or traveling to high risk areas
 - Refers to specific guidance provided by the services

Current Recommendations & Policies

- USN (BUMED 300105Z Apr 93, BUMED 161500Z Aug 96)
 - Active Duty
 - Required for personnel who are likely to experience field living conditions in JE endemic areas as a result of transfer or deployment
 - Family members
 - Do not need vaccine prior to departure for JE endemic areas
 - Must be briefed at medical check-in on JE threat, risk factors and personal protection
 - Only those at risk should be vaccinated

Current Recommendations and Policies

- CG III MEF Msg 180403Z Nov 99
Guidance
 - **Avoid exposure** - Avoid mosquito infested areas and use insect repellents. This applies to Active Duty service members and beneficiaries

Current Recommendations and Policies

- CG III MEF Msg 180403Z Nov 99
Guidance
 - **Vaccination**
 - Marine Corps and Navy personnel who are likely to experience field living conditions in JE endemic areas (Okinawa) are required to receive the JE Vaccine.

Current Recommendations and Policies

- CG III MEF Msg 180403Z Nov 99 Guidance
 - **Vaccination**
 - Family members must be educated during medical check-in by MTF staff members. The brief must include information on JE risk factors, personal protective measures and JE Vaccine.
 - Those at significant risk should be vaccinated. It is strongly recommended that personnel and family members living north of Kadena AB, or within 2-3km of pig farms/rice fields be vaccinated.

SUMMARY

- Japanese Encephalitis is a serious threat in Okinawa and other endemic areas
- Avoiding exposure and vaccination are the primary means of prevention